DEPARTMENT OF
WATER RESOURCES

Senate Bill 59

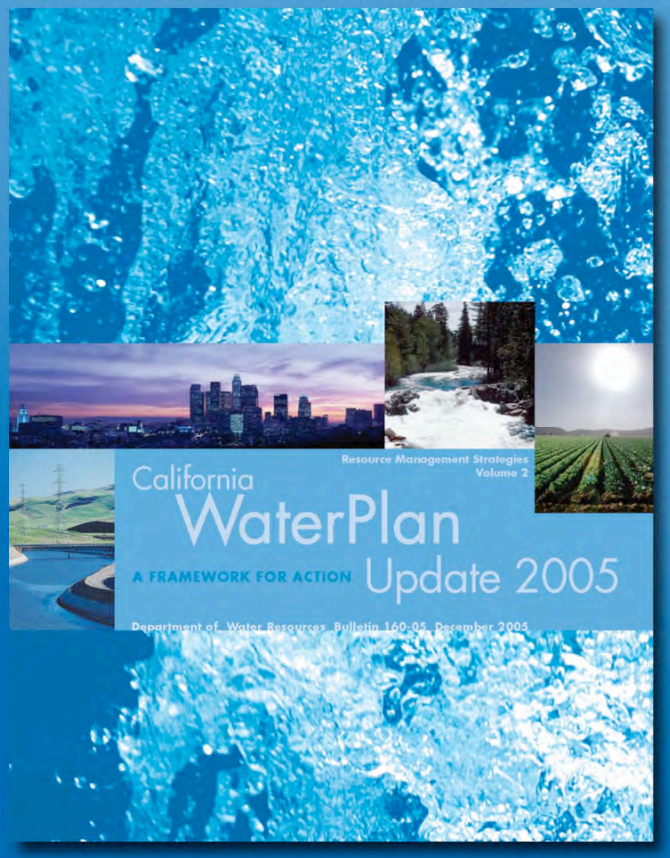
Governor's Strategic Growth Plan for Water Management

April 24, 2007

Water Management Challenges

- Population Growth
- Climate Change
- Environmental Issues
- Water Quality

California Water Plan

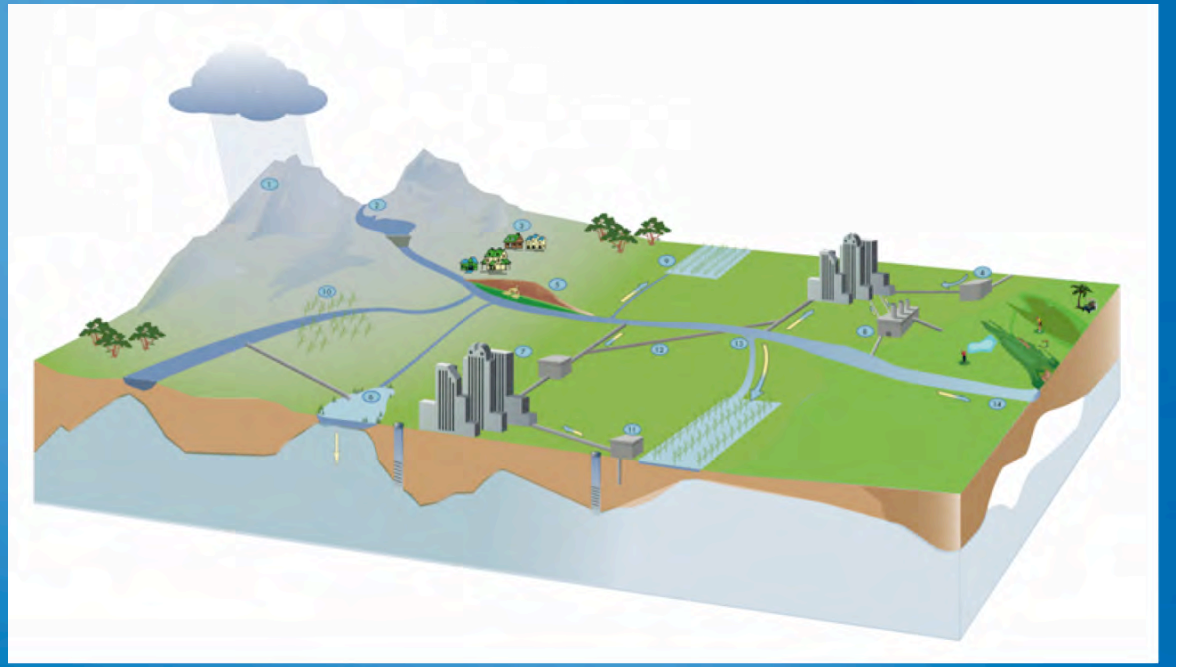


Key Initiatives:

- Integrated Regional Water Management
- Statewide Water Management

Integrated Regional Water Management

- Water management actions and issues are interconnected
- No single strategy can meet all needs
- Integrated, diverse strategies contribute to sustainable solutions



Climate Change

Impacts

- Air Temperature
- Precipitation
  - Form
  - Timing
  - Quantity
- Sea Level Rise

Effects

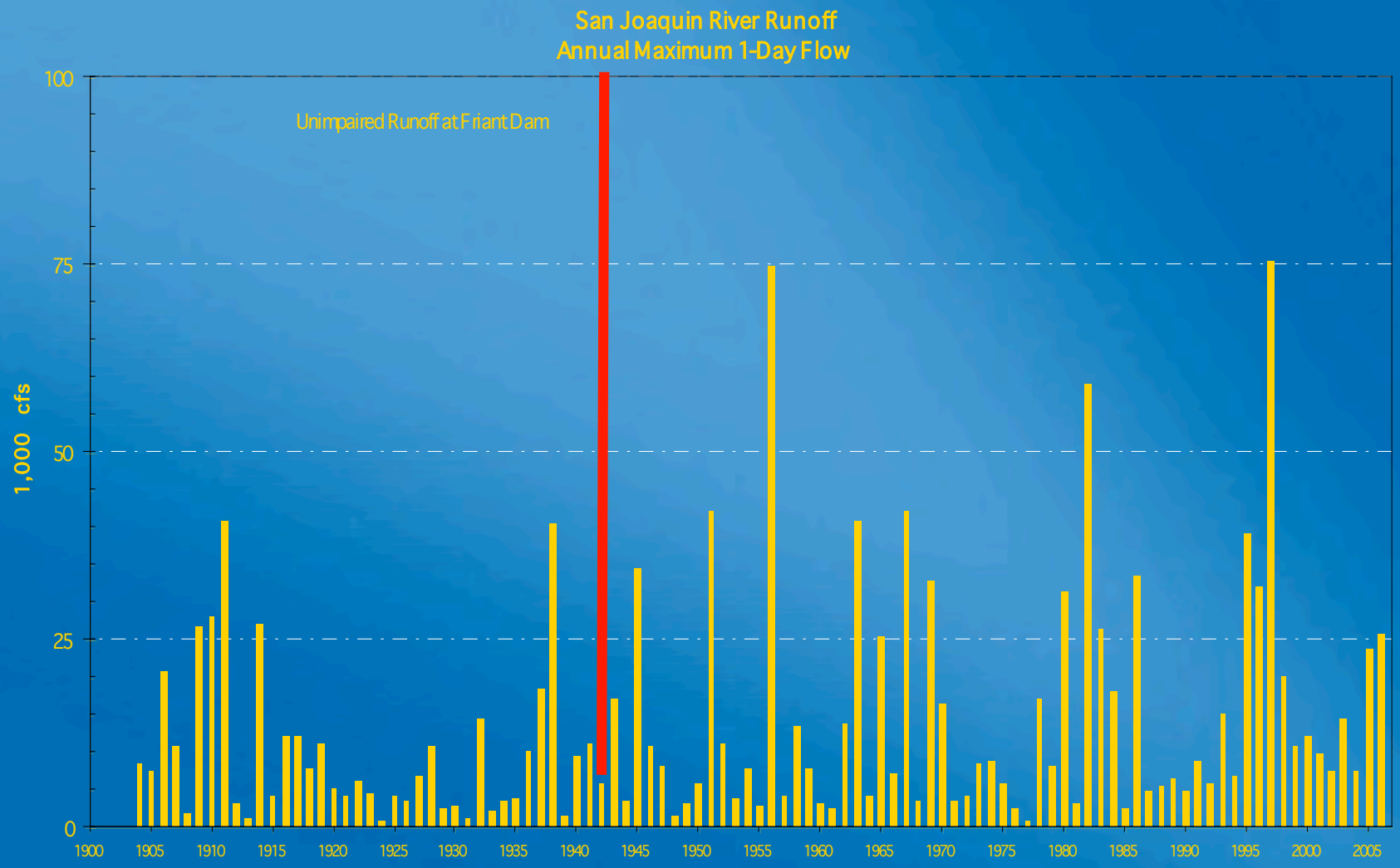
- Water Supplies
- Water Demands
- Water Quality
- Flood Management
- Ecosystems

Range of Snowpack Reductions

Projected by 2050

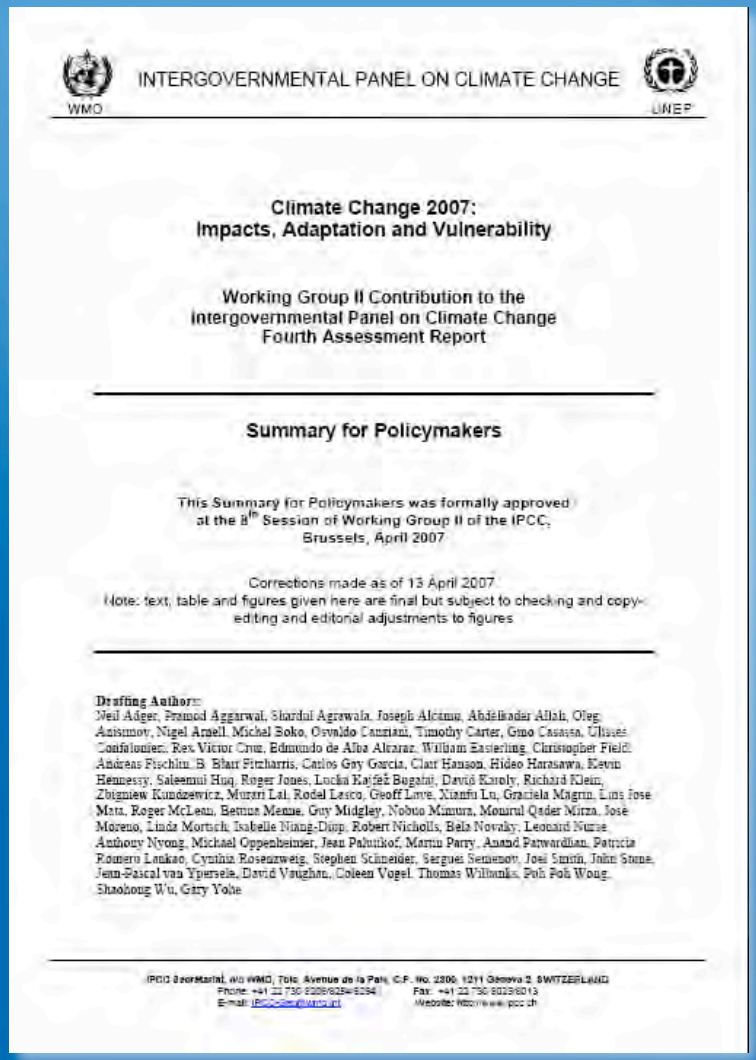
Changes in Peak Flows

San Joaquin River



Red Line = Construction of Friant Dam

New IPPC Findings



INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

WMO UNEP

Climate Change 2007:
Impacts, Adaptation and Vulnerability

Working Group II Contribution to the
Intergovernmental Panel on Climate Change
Fourth Assessment Report

Summary for Policymakers

This Summary for Policymakers was formally approved at the 8th Session of Working Group II of the IPCC, Brussels, April 2007

Corrections made as of 13 April 2007
Note: text, table and figures given here are final but subject to checking and copy-editing and editorial adjustments to figures

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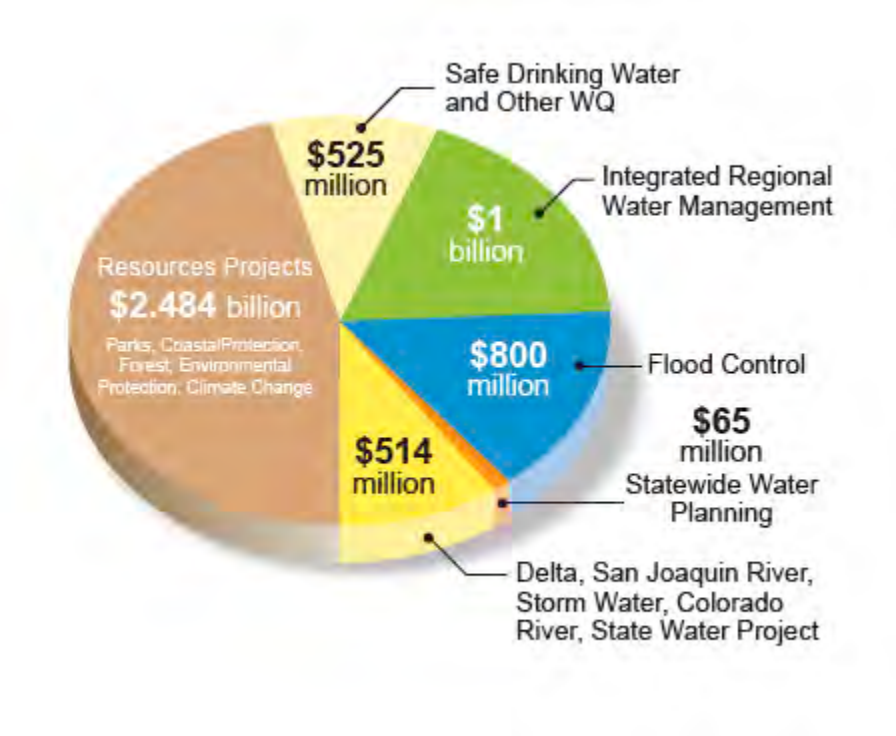
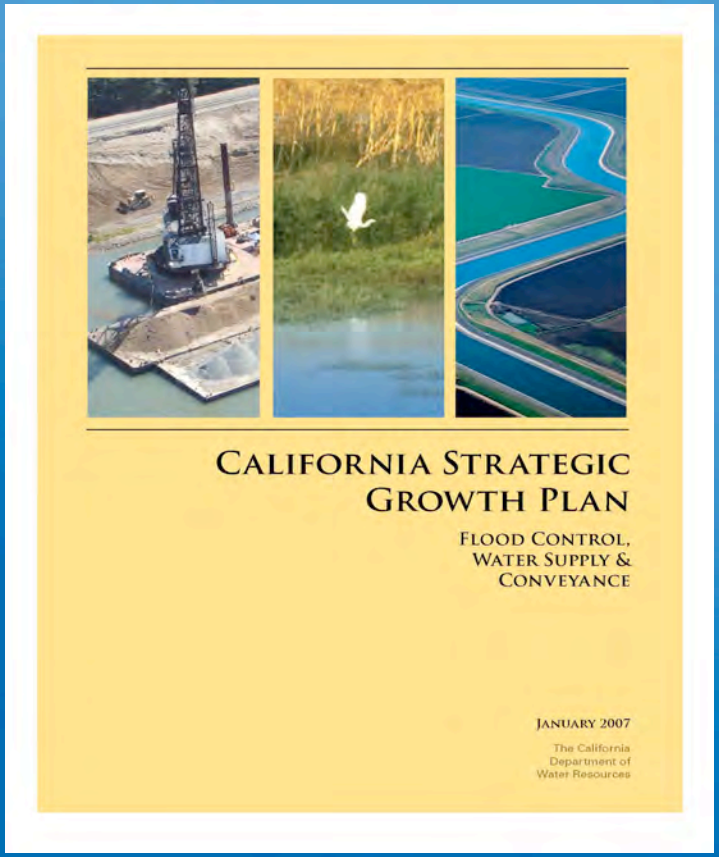
- Confirms impacts we are already witnessing
- Emphasizes the importance of adaptation
- Impacts dependent upon both climate change and adaptive capacity
- Recommends a portfolio approach

Proposition 84
Water Management Programs

- Integrated Regional Water Management
- Delta Water Quality
- State Water Planning
- Colorado River
- San Joaquin River Restoration



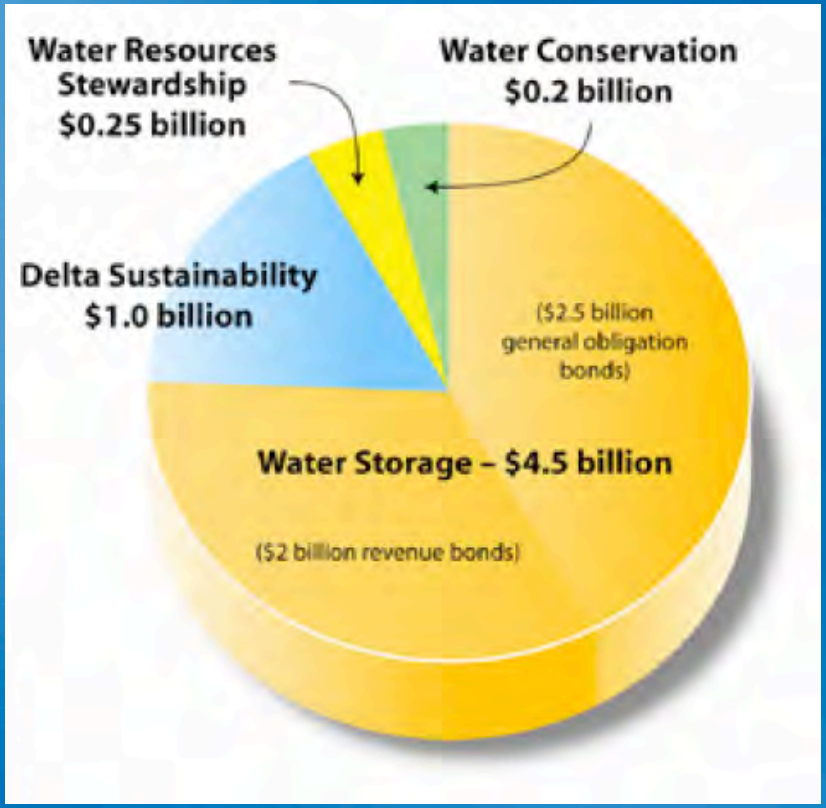
2007 Strategic Growth Plan



- Plan proposes a $5.95 billion investment to ensure reliable water supplies
- Complements Prop 84 to provide comprehensive funding for implementing the California Water Plan

Senate Bill 59
Reliable Water Supply Bond Act of 2008

- Water Storage: $4.5 Billion
  - Surface Storage: $4 Billion
  - Groundwater Grants: $.5 Billion
- Delta Sustainability: $1 Billion
- Water Conservation: $0.2 Billion
- Water Resources Stewardship: $0.25 Billion



Senate Bill 59
Water Storage

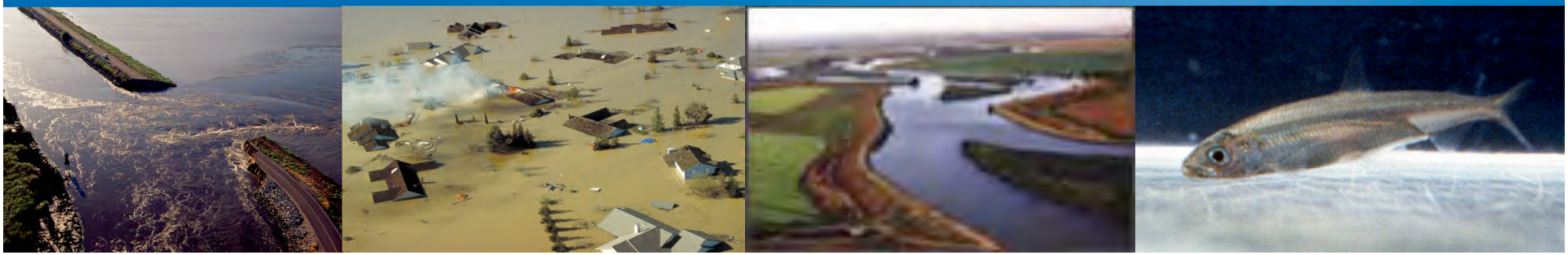
- $4.0 billion ($2 billion general obligation bonds & $2 billion revenue bonds) for design, acquisition, and construction of:
  - Sites Reservoir
  - Temperance Flat Reservoir
  - Or alternate CALFED surface storage projects if these projects are deemed infeasible
- State's cost share for public benefits, financed by general obligation bonds, not to exceed 50% of total project costs
- Revenue bonds to be repaid by project participants that contract for water supply

Senate Bill 59
Groundwater Storage

- $500 million for grants and expenditures for locally managed conjunctive use and groundwater storage projects
- Grants will leverage investment of about $2 billion in local funds, provide about 0.5 MAF per year
- Groundwater projects can be implemented quickly, provide early response to drought and climate change
- Groundwater projects operated in conjunction with surface storage system enhances benefits

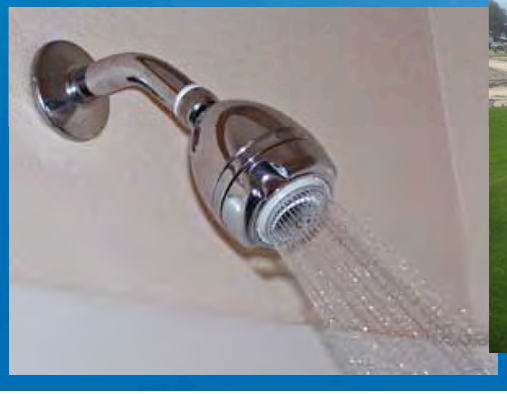
Senate Bill 59
Delta Sustainability

- $1.0 billion of state funding for public benefits associated with projects needed to assist in the Delta's sustainability:
  - $500 million for the development and implementation of a Bay-Delta conservation plan
  - $300 million for implementation of the Strategic Plan required by Governor's Executive Order S-17-06
  - $200 million for implementation of the water quality component of the CALFED Bay-Delta Program



Senate Bill 59
Water Conservation

- $200 million for grants for agricultural and urban water use efficiency projects
- Eligible projects include:
  - Projects that result in water savings, increased instream flow, improved water quality, or increased energy efficiency
  - Feasibility studies
  - Technical assistance
  - Education
  - Public outreach



Senate Bill 59
Water Resources Stewardship

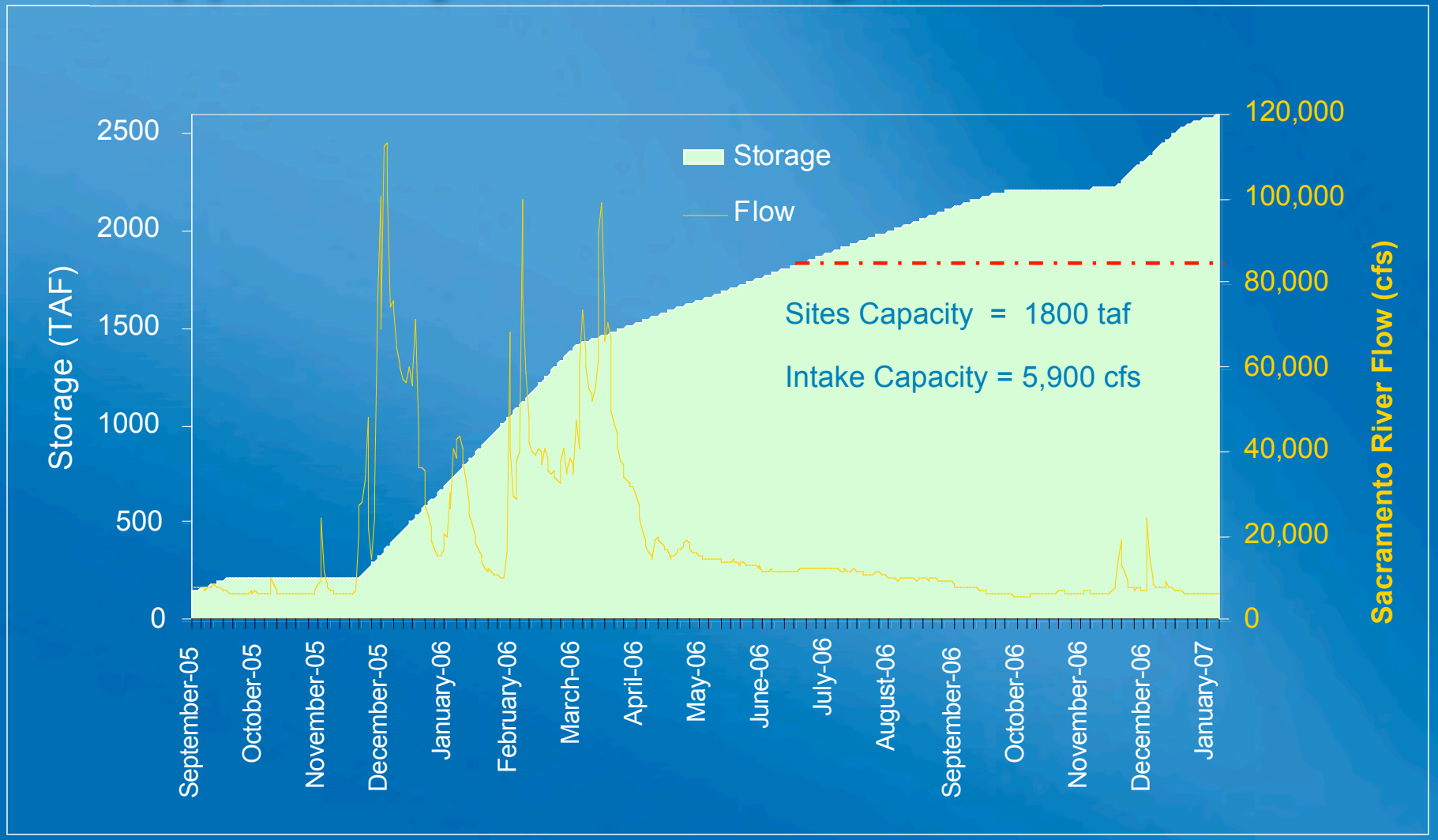
- $250 million available for appropriation by the Legislature to the secretary for expenditures and grants for resource stewardship and ecosystem restoration, including any of the following:
  - Restoration of the San Joaquin River
  - Restoration of the Sacramento River corridor

Sites Reservoir
Diverse Benefits

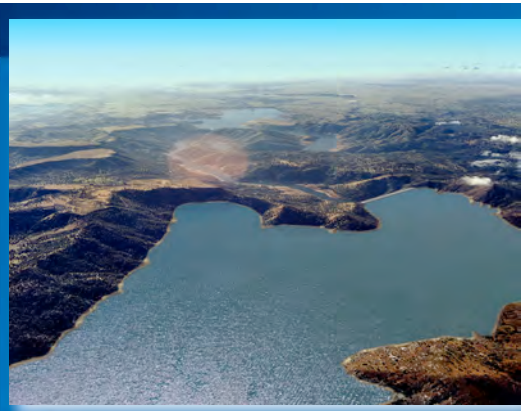
- Water Supply Reliability
- Delta Water Quality
- Sacramento River Ecosystem Restoration
- Flood Protection
- Respond to Climate Change
- Recreation
- Emergency Response

Sites Reservoir

Opportunity for Fill during 2005-06

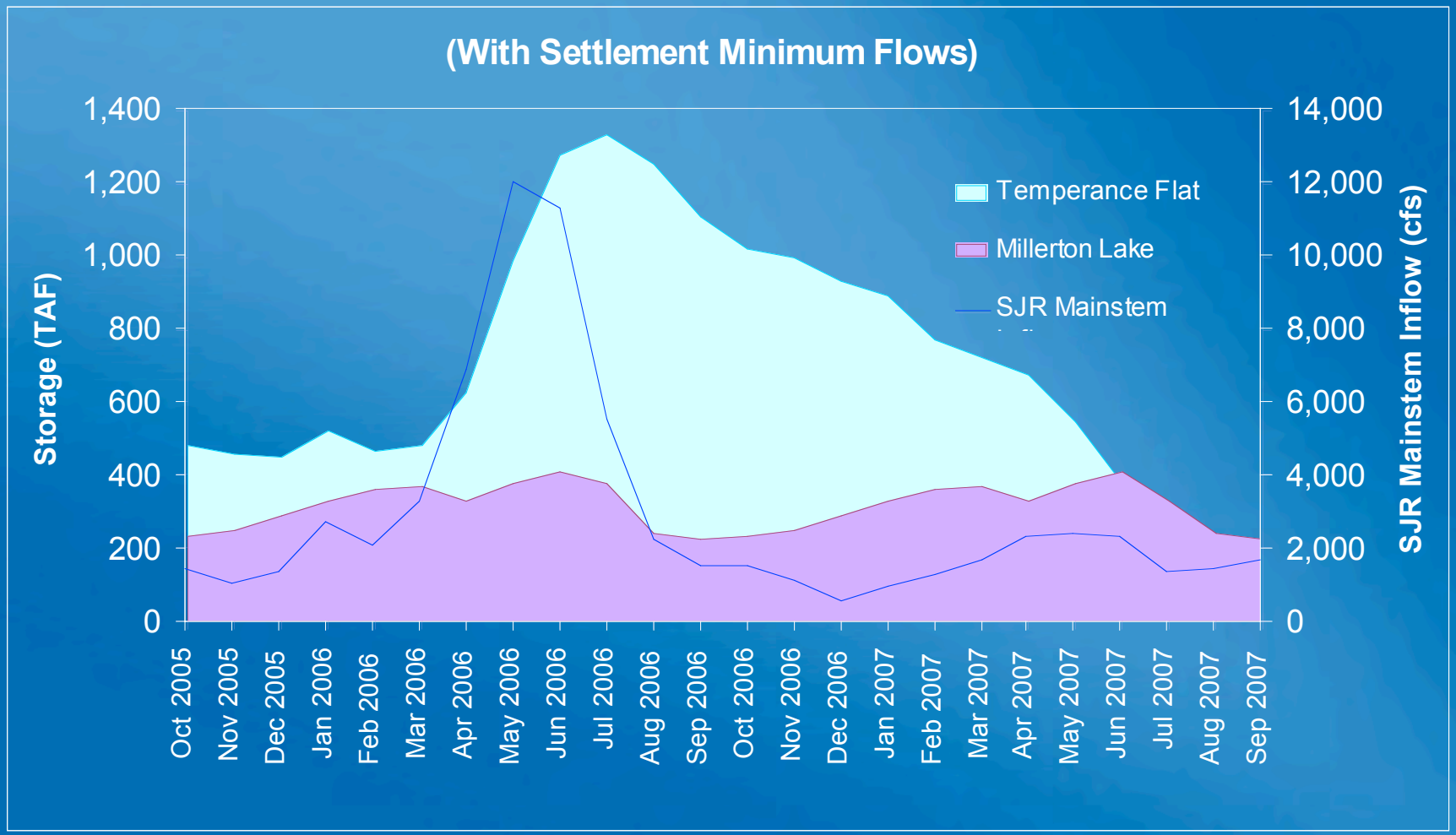


Temperance Flat
Potential Benefits

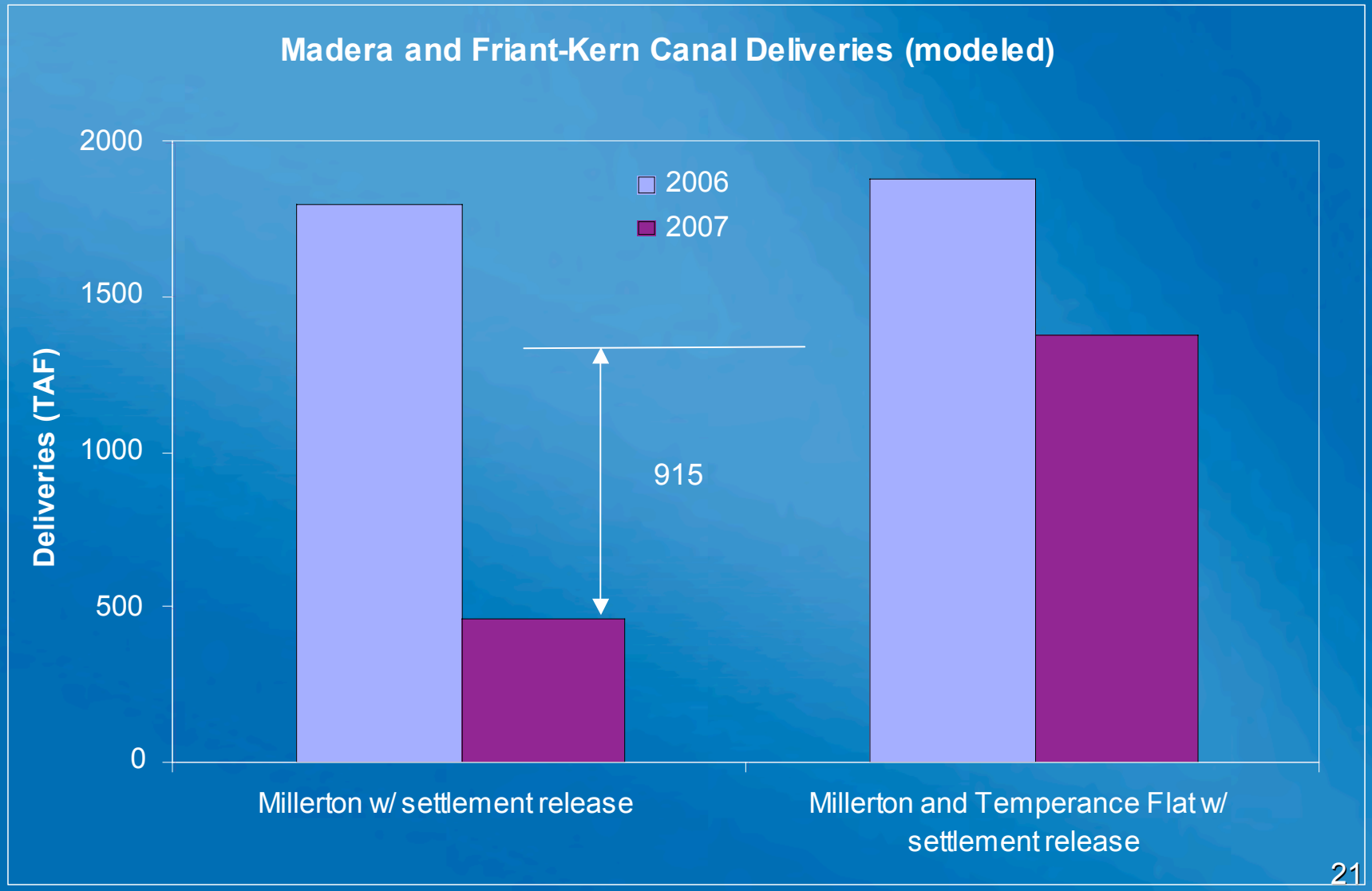


- Water Supply Reliability
  - Improve water reliability to the Friant Division
  - Additional south of Delta supplies with exchange operations
- Water Quality
  - San Joaquin River quality at Vernalis
  - Delta export water quality
  - Urban Water Quality through exchange operations
- Flood Protection
- Hydropower Generation (Off-Peak/On-Peak Operations)
- Improve Water Temperature Management
- Restoration Flows in Driest Years

Temperance Flat: 2005-07 Scenario
Inflow and Storage



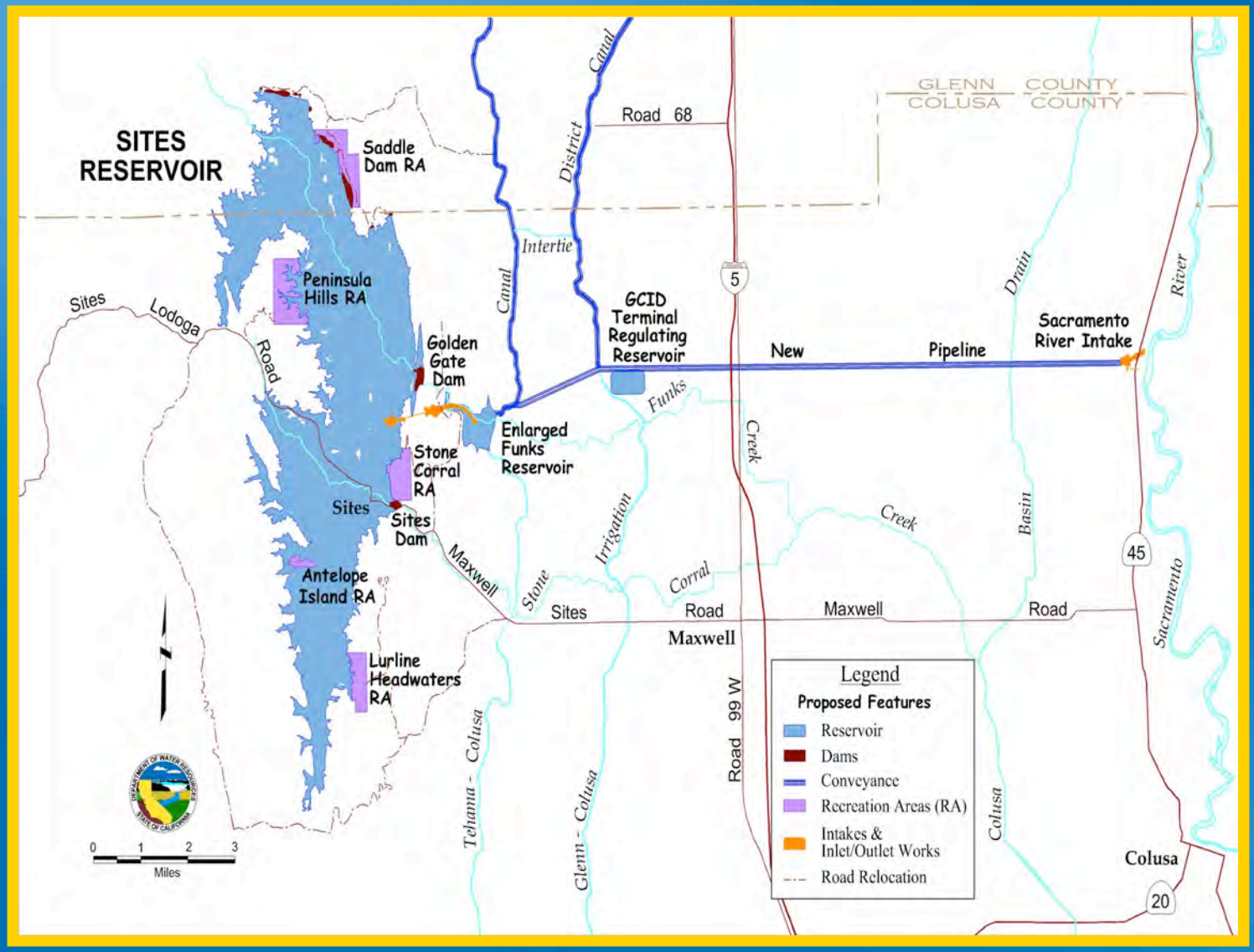
Temperance Flat: 2006-07 Scenario
Increased Water Deliveries



Backup Information on Reservoir Proposals

Sites Reservoir Location

Sites Reservoir
Project Features

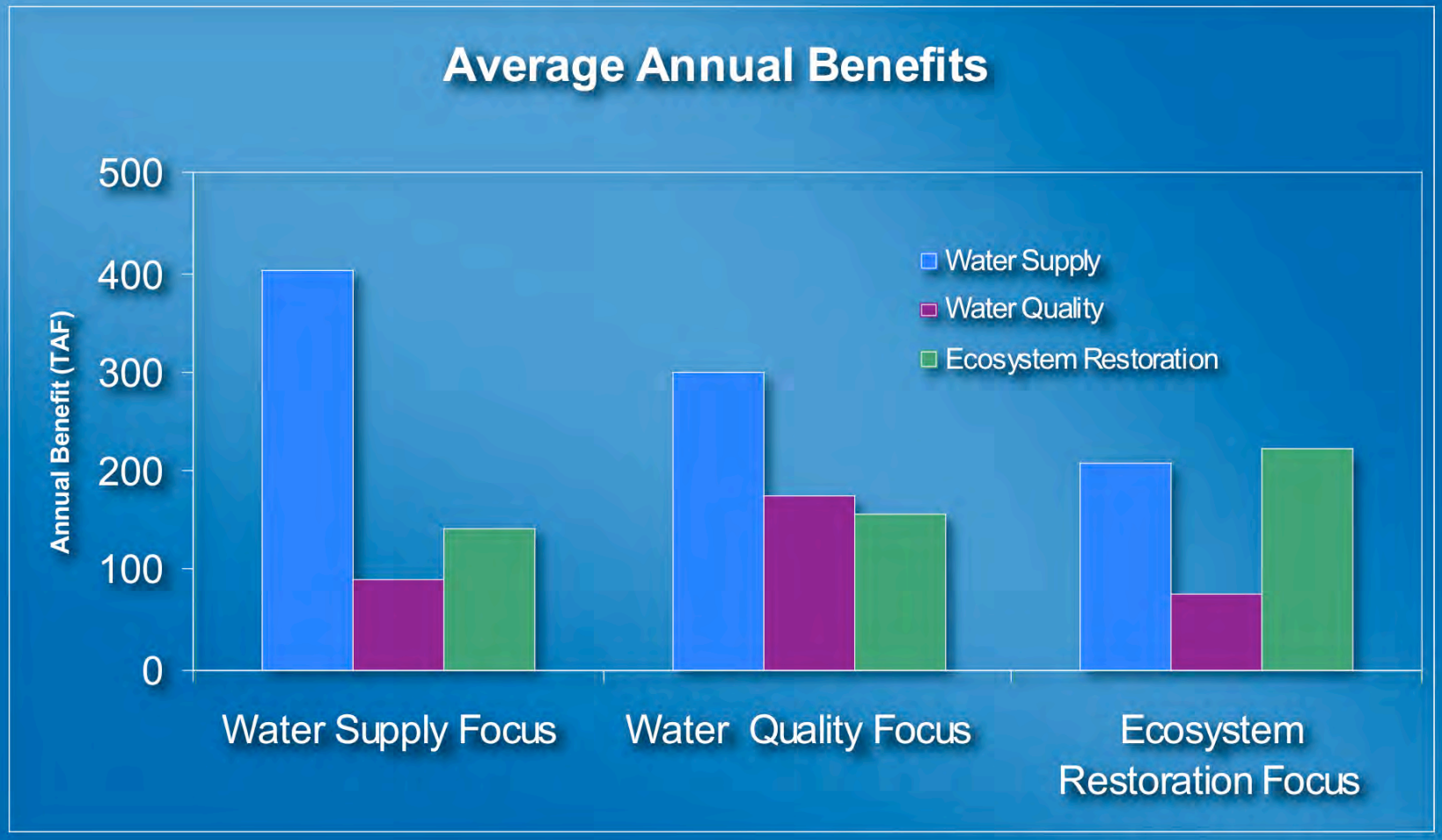


Diverse Benefits

- Water Supply Reliability
- Delta Water Quality
- Sacramento River Ecosystem Restoration
- Flood Protection
- Respond to Climate Change
- Recreation
- Emergency Response

Estimated Water Benefits

Under Various Operational Scenarios



Water Quality

- Operations triggered by chloride levels of Rock Slough at Old River
- Reservoir releases increase Delta outflow in Summer and Fall months
- Up to 9% reduction in chloride/bromide concentration at Banks

Ecosystem Restoration

- Ecosystem Restoration Actions (Prioritized with Input from Flow Regime Technical Advisory Group)
  - Provide Stable Fall Flows – Keswick to Colusa
  - Increase Cold Water Pool in Shasta
  - Improve Fish Passage at RBDD
  - Reduce Diversions at TC and GCID Canals during Critical Fish Migration Periods
  - Provide Supplemental Flows for Cottonwood Establishment

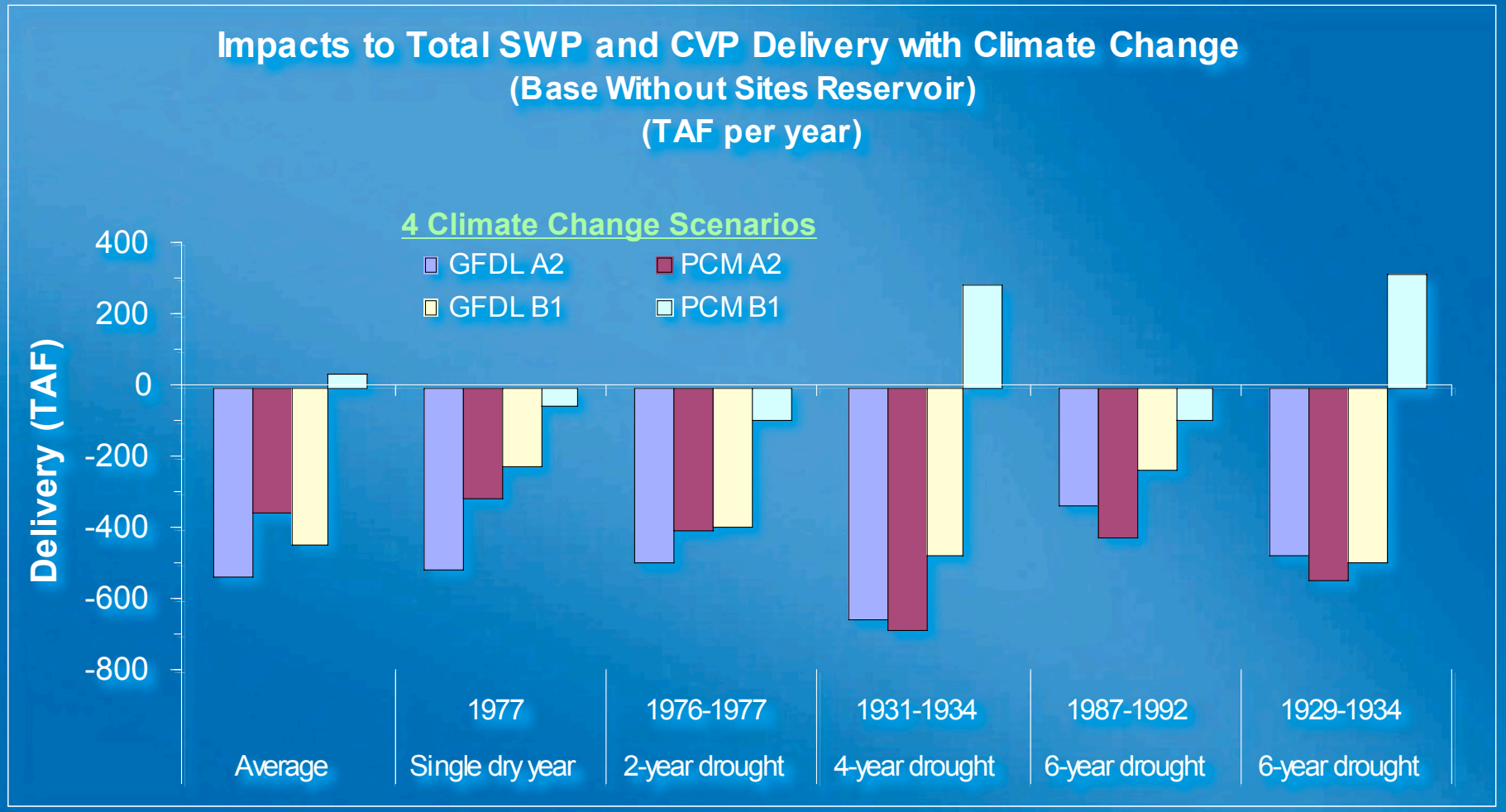
Cost Estimates

Cost Component	Costs ($ million)
Total Field Costs	$2,005
Mitigation (assumed as 10% of total field costs)	200
Engineering, Inspection, Admin., Legal Costs (25%)	501
Total Construction Costs	$2,706
Foregone Investment Value (Interest During Construction)	346
Total Capital Costs	$3,052
Annual Costs Associated with Operations	
Operation & Maintenance	4
Power	17
Total Annual O&M and Power	$21

Preliminary Cost Allocation
(Based on One Possible Project Formulation)

Total Capital Cost Estimate	$3.052 Billion
Assumed Portion of Project Costs Allocated to Water Supply	64%
Average Annual Water Supply	403,000 acre-feet per year
Equivalent Unit Cost for Water Supply	$340 per acre-foot

Climate Change Impacts



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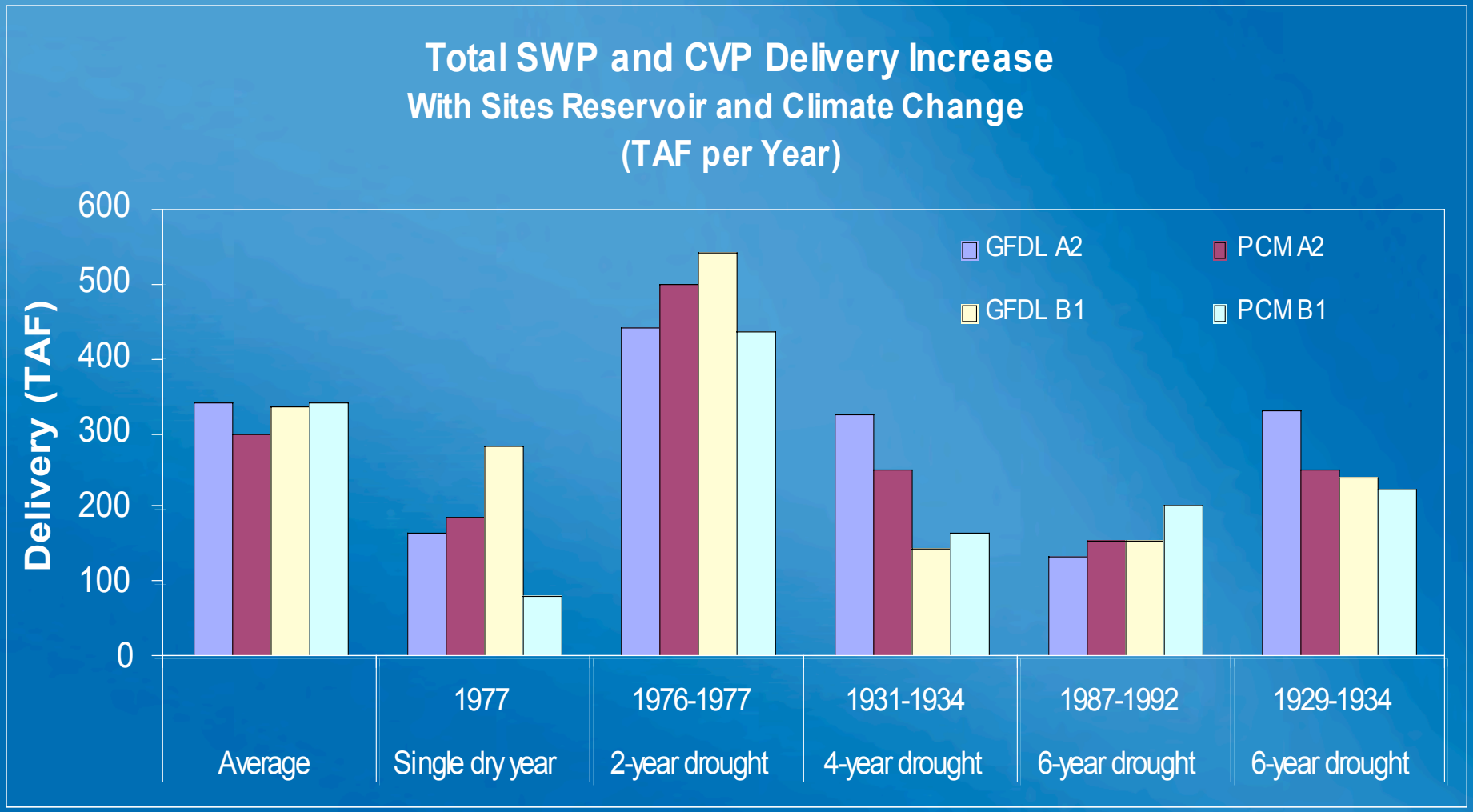

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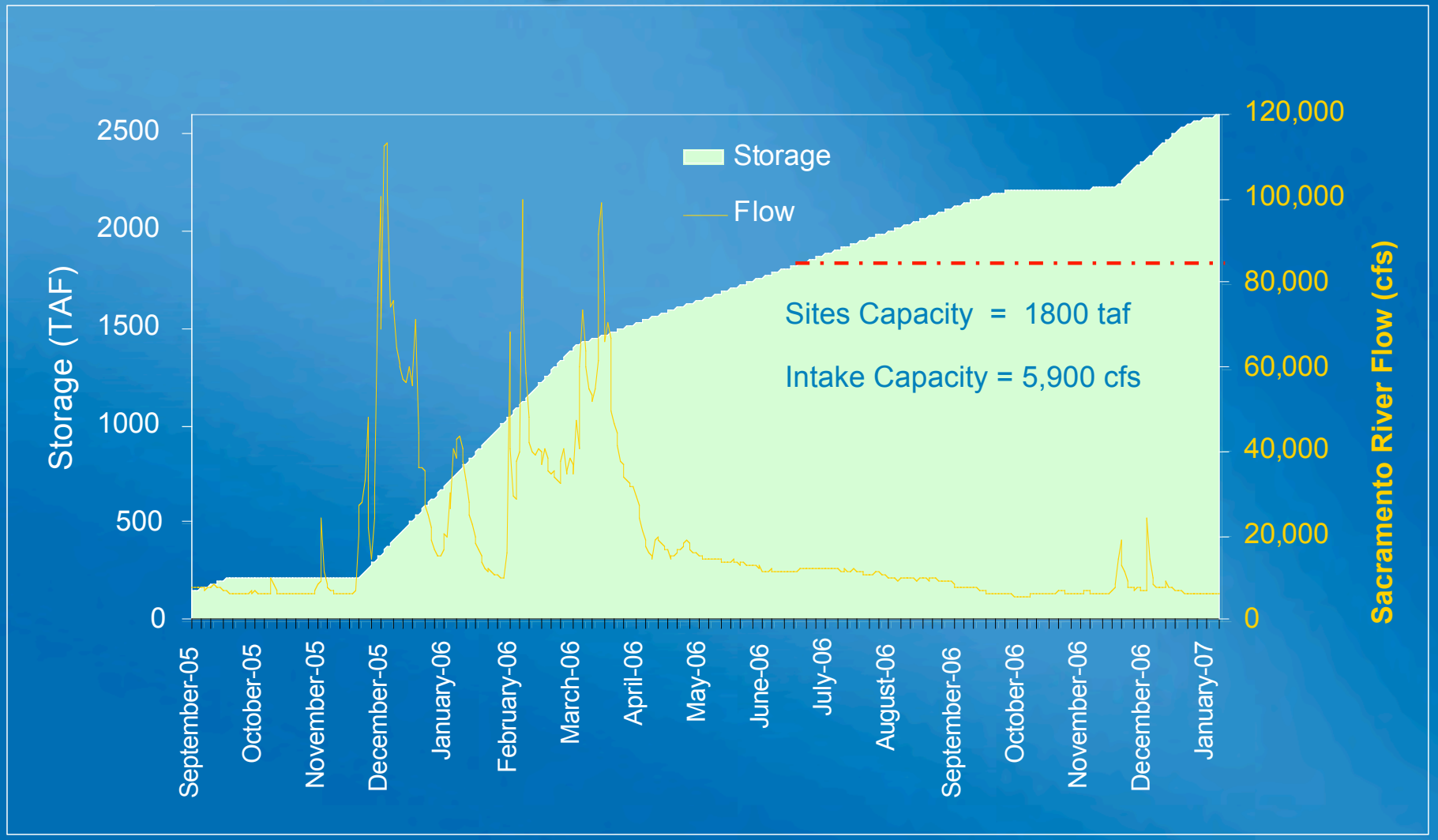

Feasibility Study Schedule

Initial Alternatives Information Report

Plan Formulation Report

Feasibility Report & EIS/EIR

Draft Feasibility Report & EIS/EIR

Define Initial Alternatives

Develop & Evaluate Alternatives

Refine & Compare Alternatives

Prepare Record of Decision and Notice of Determination & Process Final Report

Public Hearings

Public & Stakeholder Outreach

2005 2006 2007 2008 2009

San Joaquin Storage Location

Benefits

- Water Supply Reliability
  - Improve water reliability to the Friant Division
  - Additional south of Delta supplies with exchange operations
- Water Quality
  - San Joaquin River quality at Vernalis
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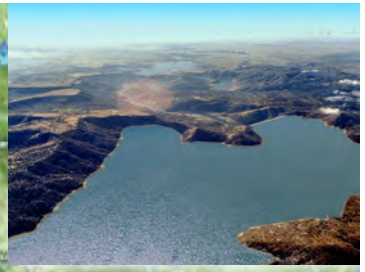
Reservoir Alternatives



Kerckhoff Dam

Fine Gold Reservoir
(1,110 ft. Pool)

Fine Gold Dam

Temperance Flat RM 279 Dam

Temperance Flat Reservoir
(985 ft. Pool)

Temperance Flat RM 274 Dam

Raise Friant
Dam 25 ft.

Millerton Lake
(670 ft. Pool)

Raise Millerton Lake
(603 ft.Pool)

Auberry

Prather

Friant

Auberry Rd

County Rd 210

Millerton Rd

SADDLE DAM

41

168

0 0.5 1 2 Miles

Reservoir Alternatives

Alternatives	Additional Storage (TAF)	Average Annual Benefit (TAF/yr)	Capital Cost* ($ Million)
Raise Friant 25 feet	130	24 - 29	220
Fine Gold Reservoir	400	65 - 78	470
	800	113 - 136	640
Temperance Flat 274	1,310	165 - 183	1,000
Temperance Flat 279	450	86 - 103	800
	725	122 - 146	1,000

* USBR is reevaluating these capital cost estimates in light of recent construction costs increases. DWR's conservative preliminary estimate is that costs will double.

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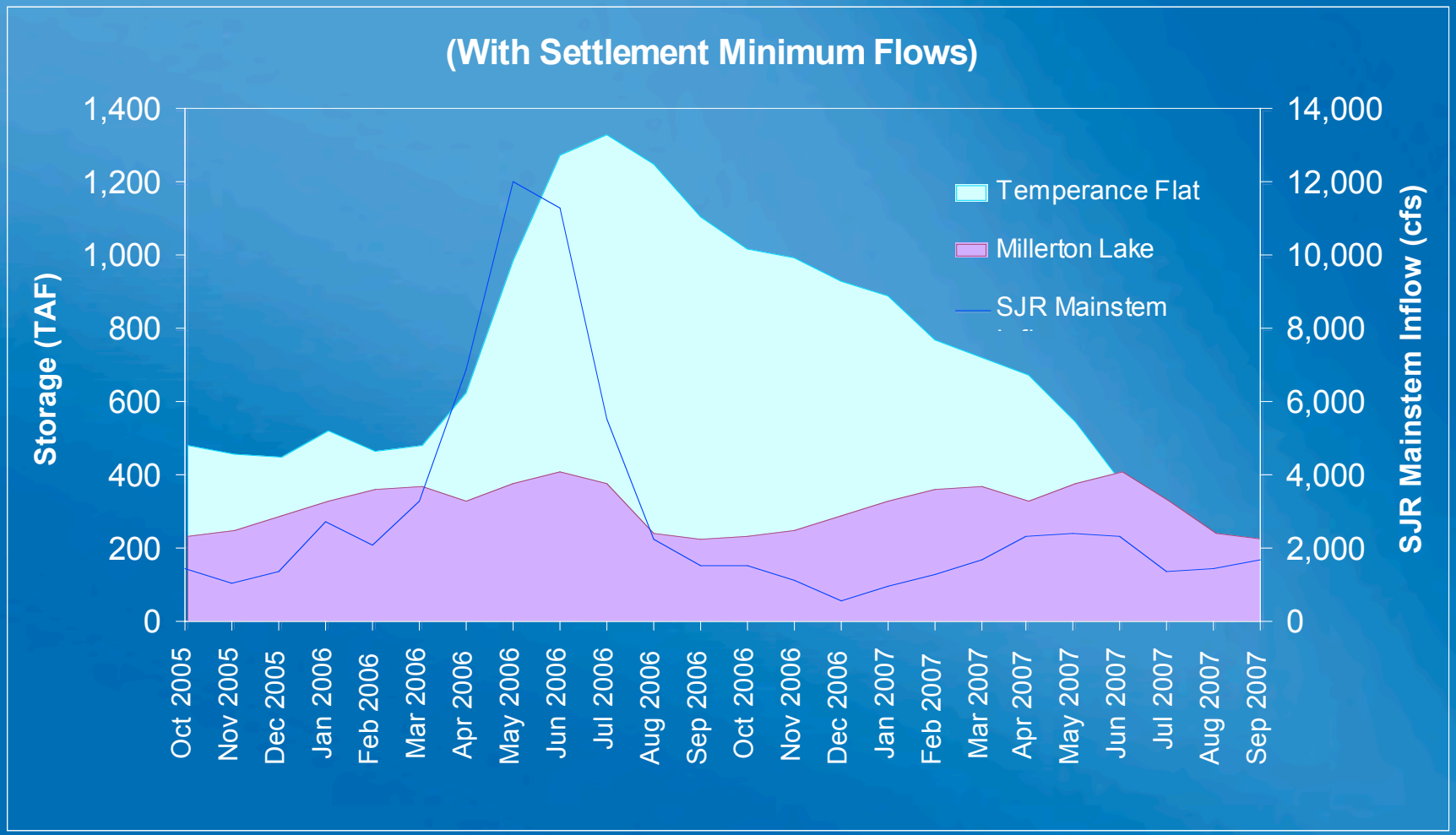

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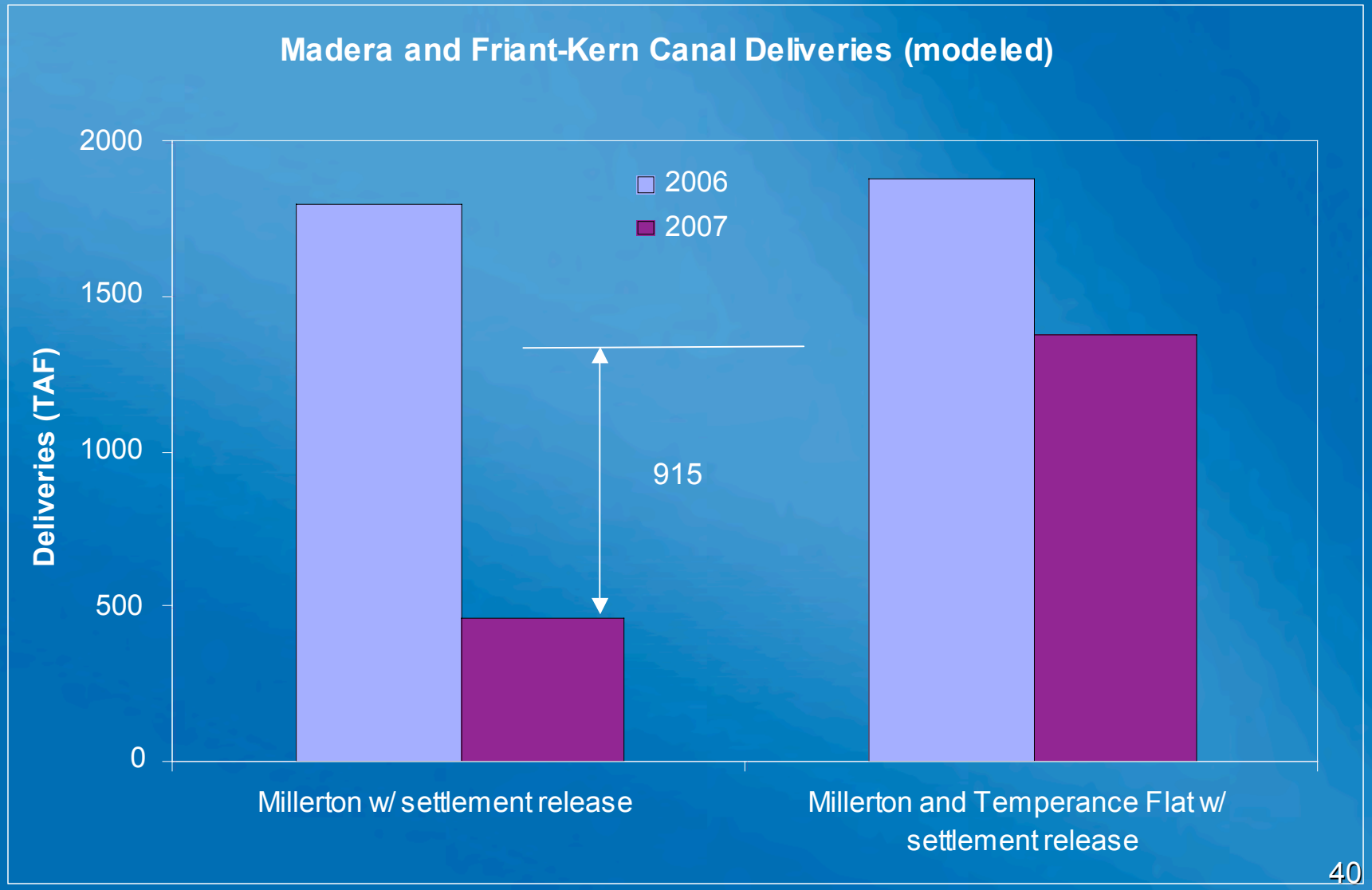
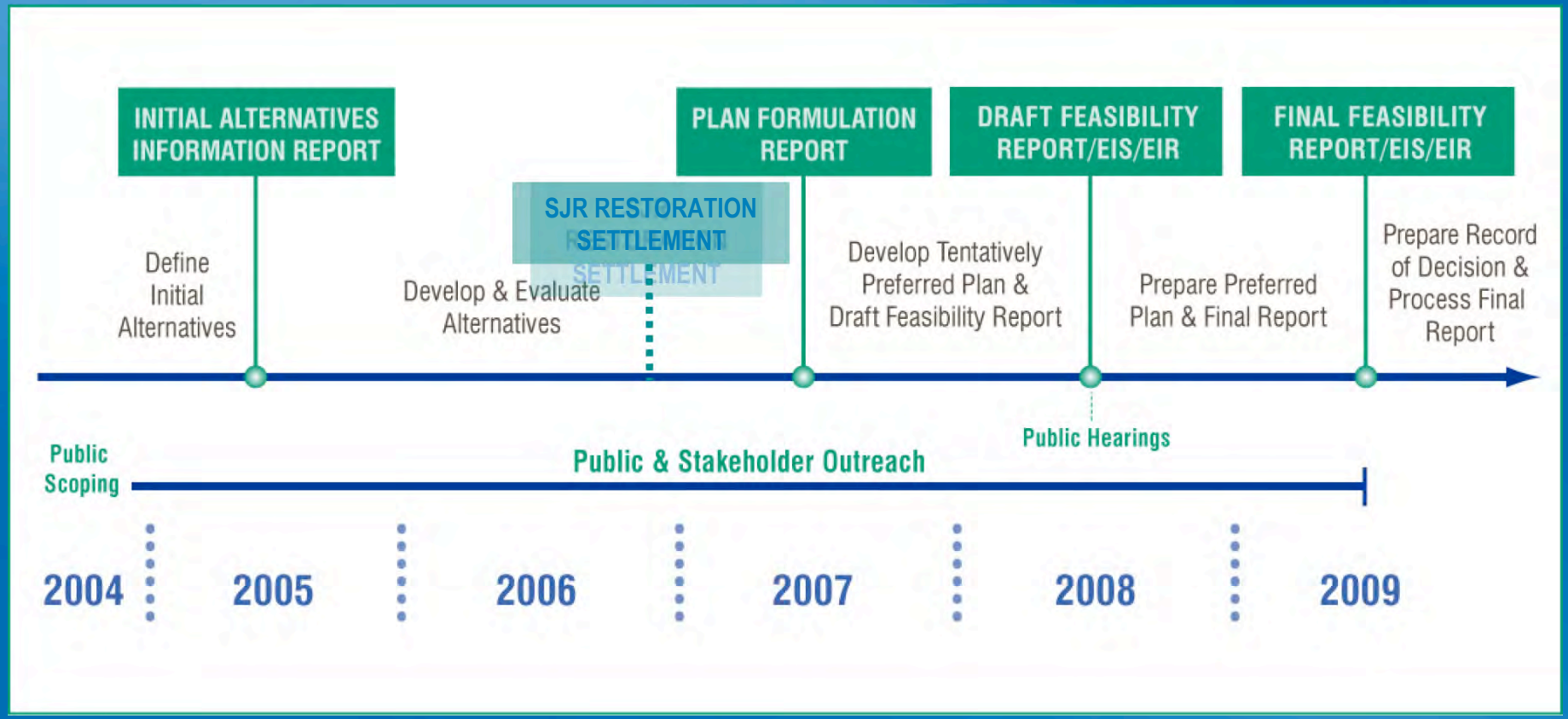


Feasibility Study Schedule



- This schedule could change due to reformulation of alternatives because of the Friant-NRDC Settlement Agreement.